



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/585,618

07/11/2006

Jiro Terada

2006_1030A

7765

52349

7590

03/23/2009

WENDEROTH, LIND & PONACK L.L.P.

1030 15th Street, N.W.

Suite 400 East

Washington, DC 20005-1503

EXAMINER

CHAPMAN JR, JOHN E

ART UNIT

PAPER NUMBER

2856

MAIL DATE

DELIVERY MODE

03/23/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,618	Applicant(s) TERADA ET AL.	
	Examiner John E. Chapman	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-10 and 12-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3,5-10 and 12 is/are allowed.
- 6) ☒ Claim(s) 13-15 and 17-23 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The substitute specification filed on December 19, 2008 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because: It was not accompanied by a statement that the substitute specification contains no new matter. Applicant should provide a statement that the substitute specification filed on December 19, 2008 contains no new matter.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 13-15, 17, 19 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Howe et al. (4,805,456).

Howe discloses a vibration piezoelectric acceleration sensor comprising a frame (28), a first pair of beams (32, 36), a second pair of beams (34, 38), a piezoelectric film (column 9, line 53) disposed on the beams, a support body (11) adjacent one end of each beam, and a holding part (78) holding the support body (11) and located between one of the first pair of beams (32, 36) and one of the second pair of beams (34, 38). See column 12, lines 12-15.

Regarding claim 14, the beams are configured to detect acceleration in two directions (column 12, lines 3-5).

Regarding claim 15, the beams provide a difference in natural oscillation frequency to determine the acceleration signal (column 4, lines 45-58).

Regarding claim 17, the beams are formed of silicon (column 7, lines 59-61).

Art Unit: 2856

Regarding claim 19, one end of each beam is attached to the frame and the other end to the support body.

Regarding claim 23, the frame is configured to be attached to a body whose acceleration is to be detected.

3. Claims 18 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howe et al. (4,805,456).

Regarding claim 18, PZT is a commonly used piezoelectric material.

Regarding claim 20, it would have been obvious to provide the piezoelectric film and electrodes along a center part of the beam in order to efficiently vibrate the beams.

Regarding claim 21, it is well known to provide an additional weight in order to increase the sensitivity of the accelerometer.

Regarding claim 22, it would have been obvious to provide the piezoelectric film and electrodes in the center part of the beam in order to efficiently vibrate the beams.

4. Claims 13-15 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howe et al. in view of Burns et al. (5,780,742).

Regarding claim 13, Howe discloses a holding part (78) holding the support body (11) and located between one of the first pair of beams (32, 36) and one of the second pair of beams (34, 38). Burns discloses a vibration acceleration sensor in Fig. 12 comprising a frame (410), a first and second pairs of beams, and diagonal webs (410) located between the beams. It would

Art Unit: 2856

have been obvious to provide the holding part (78) of Howe as diagonal webs as illustrated in Fig. 12 of Burns.

Regarding claim 14, the beams of Howe are configured to detect acceleration in two directions (column 12, lines 3-5).

Regarding claim 15, the beams of Howe provide a difference in natural oscillation frequency to determine the acceleration signal (column 4, lines 45-58).

Regarding claim 17, the beams of Howe are formed of silicon (column 7, lines 59-61).

Regarding claim 18, PZT is a commonly used piezoelectric material.

Regarding claim 19, one end of each beam is attached to the frame and the other end to the support body.

Regarding claim 20, it would have been obvious to provide the piezoelectric film and electrodes along a center part of the beam in order to efficiently vibrate the beams.

Regarding claim 21, it is well known to provide an additional weight in order to increase the sensitivity of the accelerometer.

Regarding claim 23, the frame is configured to be attached to a body whose acceleration is to be detected.

Regarding claim 22, it would have been obvious to provide the piezoelectric film and electrodes in the center part of the beam in order to efficiently vibrate the beams.

5. Claims 1-3, 5-10 and 12 are allowed.

Art Unit: 2856

6. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ristic et al. (5,487,305) discloses a three axes accelerometer comprising four arms (64) arranged in a meandering manner.

8. Applicant's arguments filed December 19, 2008 have been fully considered but they are not persuasive. Applicant argues that Howe fails to disclose a holding part as recited in claim 13. However, Howe discloses a holding part (78) holding the support body (11) and located between any two of the beams (32, 34, 36, 38) in column 12, lines 12-15.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2856

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John E. Chapman whose telephone number is (571) 272-2191. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John E Chapman/
Primary Examiner
Art Unit 2856